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Original Article

Achieving SDG3 in the context of the COVID-19 pandemic: Perceptions of Frontline Health Managers of Primary Health Care in South-south, Nigeria

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ABSTRACT

Objective: This study investigated the knowledge of frontline health managers of a Primary Health Care system, on Sustainable Development Goal 3, and their perception on attaining the goal with the current COVID-19 pandemic. *Design:* The study was conducted using a cross-sectional study design with a technology-assisted structured questionnaire, in April 2020. *Setting:* Primary Health Care system in 23 Local Government Areas of Rivers State, Nigeria. *Participants*: All heads of PHC facilities and program officers were included. Only those with formal excuses from duty were excluded. A total of 340 respondents took part in the study. Data was analyzed using SPSS v. 25, $p < 0.05$. *Main outcome measure:* Knowledge of SDG3 and perception of attaining SDG by 2030 with COVID-19 pandemic. **Results:** Majority of the participants were 36-50 years (74%), females (66%), and had tertiary education (89%). Majority had over five-year work experience (72%) and were program officers (58%). A significant difference was observed in 'knowledge on SDGs' among heads of health facilities and program officers, p=0.042. With the current COVID-19 pandemic, majority stated that it is 'unlikely' to attain the SDGs by 2030 and 'unlikely' that the pandemic would improve political will and partnership, two essentials for implementing SDG3 within the PHC system. **Conclusion:** Frontline health managers have a crucial role to play in attaining SDG3 and their opinion towards attaining the goal needs to be well considered. Stakeholders' analyses is required for effective implementation of SDG3 programs within the PHC system, during and after the COVID-19 pandemic era.

Keywords: Sustainable Development Goals, COVID-19, Primary Health Care

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INTRODUCTION

In 2015, the world leaders agreed on 17 Sustainable Development Goals (SDGs) for a fairer and healthier world, by 2030.[1] The transition from the Millennium Development Goals (MDGs) to SDGs was laudable, despite the obvious fact that countries had attained the MDGs at different levels.[2] For instance, the health systems of low and lower-middle-income countries (LLMICs) strived to attain MDGs 4, 5 and 6, but the double burden of diseases and other limiting factors affected many of these countries, especially those in the sub-Saharan African region.[3] One of the major limiting factors then and still in existence, is the funding of the public health systems in LLMICs.[4] The World Health Organization's (WHO) recommendation of public spending towards healthcare has been challenging to achieve in LLMICs and the impact on the health of the people has resulted in high morbidity and mortality rates compared to high-income countries.[5,6] Although some progress has been made in the health sector of sub-Saharan African countries, the changes have not been sufficient to close the global health equity gap, as well as in-country differences caused by geographical location (rural-urban) and wealth index divide.[7] By the end of the MDGs in 2015, there was the need for a sustainability plan for achievements as well as improvement in the health and other sectors for global development.

The direct health goal of the SDGs is goal three, which seeks to ensure healthy lives and promote well-being for all, at all ages. It is however impossible to achieve this goal without the other SDGs. Like the MDGs, the SDGs are all interrelated and aimed at achieving global well-being and equity. [1,8] The first and second goals, address poverty and hunger which are directly related to the cause and treatment of diseases. The fifth and sixth goals on gender equality; clean water and sanitation are very important for access to health care services and the prevention of communicable diseases. Sustainable Development Goal 17, has shown in recent times, the importance of partnership in global development.[9] For example, the COVID-19 pandemic, has revealed that SDG 17 is vital in achieving SDG3. The provision of COVID-19 vaccines and other aids across nations to ensure healthy lives is further proof of the need to take care of people in different geographical locations towards achieving SDG 3 by 2030. The world is indeed a global village and disease transmission across and within continents is much easier now than ever before. The present global situation however raises concern about how well on track the SDGs are. On World Health Day, 2020, Antonio Guterres, Secretary General of the United Nations, remarked that the 2030 target date for achieving the SDGs was "*tremendously off track*," with between 720 and 811 million people globally facing hunger.[10] This, further exemplifies how all SDGs like the MDGs are in one way or the other important for achieving global health.

In the absence of a global pandemic, achieving targets of the health and health related MDGs was challenging for the sub-Saharan Africa region. Now, with the occurrence of the COVID-19 pandemic, there are concerns about achieving the SDGs in many LLMICs.[11] The health systems in these countries have certainly been impacted heavily by the pandemic and in different ways too. In terms of human resources, frontline health workers have had to risk their lives in caring for others and the effect of the pandemic across the globe, on these brave groups of workers cannot be quantified.[12] As health workers settle into the new world; previously set national, regional and global health goals such as the SDGs need to be evaluated in terms of the impact of the pandemic on the progress of these goals.

Many countries align their healthcare system in three levels: the primary, secondary and tertiary healthcare facilities and ideally, with a two-way referral among the strata. Since its onset in 1978, the Primary Health Care system has remained a reliable platform for the delivery of health services, especially in LLMICs.[8,13] Primary health care (PHC) played a significant role in attaining the MDGs in many settings and is expected to aid in the achievement of SDGs.[14,15] The 2018 Astana declaration further emphasized the role of PHC in

achieving the SDGs, *"... PHC is a cornerstone of a sustainable health system for universal health coverage (UHC) and health-related Sustainable Development Goals*".[16] This also suggests the need for adequate knowledge among health care providers in the PHC sector to properly execute the SDGs within their jurisdictions.[16]

The COVID-19 pandemic has affected many global and national health programs. The progress on the SDGs is of concern in the health sector because many programs and services have been affected by the pandemic.[14] The gains of maternal and child health at the end of the MDGs and in the early years of the SDG may be affected by the pandemic and other health programs have likewise been affected due to the additional demands of controlling the COVID-19 pandemic.[17]

A major concern in the health systems is the feasibility of attaining the SDGs in context of a global pandemic and would SDG 3 and other health-related SDGs be achieved in LLMICs. These concerns may be addressed with the use of practical and feasible monitoring and evaluation tools, adapted to fit each country's health information system. [18,19] The Primary health care frontline managers are also a reliable source of obtaining current information on programs geared towards controlling the COVID-19 pandemic, programs being implemented for the SDGs as well as the impact of COVID-19 on the SDGs. This paper seeks to investigate this topical public health concern in a study population directly affected by both the pandemic and SDGs implementation.

MATERIALS AND METHODS

Study Setting

The study area was conducted in Rivers state, which is located in the south-south geopolitical region of Nigeria and home to over six million people, a projected population figure from the 2006 National Census.[20] The state has 23 Local Government Areas (LGA), the majority of which are rural in terms of facilities and population size. Rivers state especially the rural communities contributes significantly to the economy of Nigeria, because of its oil deposits. The state capital, Port Harcourt, is cosmopolitan with many local and international travelers. The indigenous people of Rivers State are however mostly civil servants, farmers, and fishermen/women. The native culture is extremely rich in terms of the use and trade of textiles and sea foods. The health system comprises formal and informal health systems. The formal health sector is in line with the three-tier system of the national health care and is made up of primary, secondary, and tertiary healthcare facilities. The Primary Health Care (PHC) system is at the grass-root level, managed by the Rivers State Primary Health Care Management Board which is directly overseen by the Permanent Secretary. There are over 300 PHC facilities located across the 23 Local Government Areas (LGAs) of Rivers State [21] Each LGA is made up of wards and there is at least one PHC in LGA ward. The PHC facility also has an administrative head who is either a medical doctor or a Community Health Officer (CHO) depending on the geographical location and the population density of the ward. The private health sector of the State is made up of clinics and hospitals while the informal health sector is made up of patent medicine vendors, religious, and traditional healers.

Study design:

A cross-sectional study design was employed for the study with the aid of a technology-assisted survey. Ethical approval for the study was obtained from the Rivers State Hospitals Management Board Ethics Committee with approval number: RSHMB/RSHREC/11.17/8/104. Each participant gave their written informed consent before the commencement of the data collection. Prior to this, participants were informed of the benefits of the study and assured of confidentiality. Data was stored in a password-protected computer, accessible only to the researchers.

Selection and Description of Participants:

Each LGA has a Medical Officer of Health (MOH), who serves as the head of the PHC system, an assistant PHC coordinator (usually a nurse) and LGA focal persons in charge of the different

components of PHC. The heads of PHC facilities and LGA focal persons make up the frontline health managers in the PHC system of the state and they are the target population for this study.[21] All the operational/frontline managers made up of all the heads of PHC facilities and program officers in the 23 LGAs were included in the study. Only those with severe medical conditions or on annual leave/excuse duties were excluded.

Statistics

A structured survey questionnaire was used for data collection, and it had three major sections: the socio-demographics and occupational history; knowledge of SDGs; and respondents' perception of achieving SDGs with the COVID-19 pandemic. The socio-demographics covered age, sex and level of education. The occupational history questions were on current work positions, designation, and years of experience as a frontline health manager. For knowledge, a scoring system was used to classify responses into 'good' (aggregated score greater than or equal to 3 points per item) and 'poor' knowledge (aggregated score less than 3 points per item). For perception, a four-point Likert scale (very unlikely, unlikely, likely, and very likely) was used. All questions were scripted into smartphone mobile devices and completed surveys were sent to the server as real-time data. Ten research assistants who were experienced in the use of technology-assisted surveys were trained for data collection. The research assistants pre-tested the survey instrument, and the result of the exercise was used to modify the questionnaire appropriately. Data were analysed with Statistical Package for the Social Sciences (SPSS) Statistics version 25 and p-value ≤ 0.05.

RESULTS

The geographical location of the PHCs spanned across rural and urban areas of Rivers State, with four Local Government Areas (LGA) being urban and 19 rural. Health activities in these different locations were even and all frontline officers meet monthly to discuss the progress and challenges being faced with executing SDG3 and other health plans/activities in their areas of jurisdiction. A total of 377 participants gave responses to the technology-assisted survey.

Socio-demographics

Table 1 shows that majority of our respondents were females and in the 36-50 years age group. Nearly all respondents had tertiary education and they were deemed highly knowledgeable.

Table 1: Socio-demographics of Frontline Health Managers

		n (%)
Age (years)	21-35	16 (4.3)
	36-50	278 (73.7)
	51-60	83 (22.0)
Gender	Male	129 (34.2)
	Female	248 (65.8)
Education	Post-tertiary	40 (10.6)
	Tertiary	334 (88.6)
	Senior Secondary	3(0.8)

Occupational History

Table 2 shows that most of the participants were programs officers in 23 LGAs (57.8%) and the others were operational managers in charge of primary health care (PHC) facilities. Nearly, three-quarters of the respondents (72.4%) had greater than five years of work experience as frontline health care managers in Rivers State.

Knowledge

Table 3 shows that only a third of the participants (29.7%) had good knowledge of SDG3 and other SDGs. There was a significant difference in knowledge of SDG3 and other health-related SDGs between heads of facilities (doctors) and LGA program officers, $p = 0.042$.

Attaining SDG3 by 2030

The four-point Likert scale used in Table 4, revealed that most of the heads of facilities and LGA program officers stated that it is '*very unlikely'* to attain the SDG3 by 2030. None of the participants selected the 'Very Likely' option for

attaining SDG3 by the end date, the year 2030. Perception of frontline health care managers on the implementation of SDG3 programs in the context of COVID-19 in Rivers State

Table 2: Occupational History

		n (%)
Current Position	Head of Facility	159 (42.2)
	LGA Program Officer	218 (57.8)
Designation	Medical Officer	41 (10.9)
	Nurse or Midwife	35 (9.3)
	Community Health Officer	147 (39.0)
	Community Health Extension Worker	72 (19.1)
	Health Information Officers	29 (7.7)
	Others	53(14.0)
Years of experience as frontline health manager	0-2 years	30 (8.0)
	2-5 years	74 (19.6)
	>5 years	273 (72.4)

Table 3: Knowledge of SDGs and participants' socio-demographics and occupational history

		Knowledge		Chi-Square Test
		Good n (%)	Poor n (%)	(X^2, P)
Total		101 (26.8)	266 (73.2)	
Age	21 – 35	5 (5.0)	11 (4.0)	1.4002, 0.4965
	36 – 50	70 (69.3)	208 (75.3)	
	51-60	26 (25.7)	57 (20.7)	
Gender	Male	39 (38.6)	90 (32.6)	1.1846, 0.2764
	Female	62 (61.4)	186 (67.4)	
Education level	Post-tertiary	17 (16.8)	23 (8.3)	-
	Tertiary	84 (83.2)	250 (90.6)	
	Senior secondary	0 (0.0)	3 (1.1)	
Position	Head of Facility	34 (33.7)	125 (45.3)	4.0984, 0.042*
	LGA Program Officer	67 (66.3)	151 (54.7)	
Job description	Medical Officer	9 (8.9)	32 (11.6)	3.5394, 0.6174
	Nurse or Midwife	8 (7.9)	27 (9.8)	
	Community Health Officer	38 (37.6)	109 (39.5)	
	Community Health Extension Worker	18 (17.8)	54 (19.6)	
	Health Information Officer	11 (10.9)	18 (6.5)	

In table 5, most of the participants (45.9%) stated that it is '*unlikely*' that the COVID-19 pandemic would be the only factor affecting the implementation of SDG3 plans. The majority (48.5%) also stated that it is '*unlikely*' that the COVID-19 pandemic would improve political will and partnership with external donors.

DISCUSSION

Knowledge of SDGs and its targets was low among the frontline health managers with about a quarter of respondents having '*good knowledge'* of the 17 SDGs, SDG3, and the targets. This finding is higher than the proportion reported by Talpada and Sarate,[22] among peripheral health workers in India, where none of the study population participants had '*good knowledge'* of SDGs. It is however much lower than the proportion of '*good knowledge'* reported by Bello and colleagues.[23] in a similar study in another state of Nigeria. Limited re-training of frontline health workers on SDGs especially in recent times with the distraction caused by the COVID-19 pandemic may account for our finding.

There was no significant difference in the knowledge of SDGs among the respondents with regard to age group, gender, job description or years of experience as frontline health workers. However, a significant difference was observed in '*good/poor knowledge'* in current positions held by the participants. A higher proportion of LGA program officers had scores of '*good knowledges'* compared to heads of facilities who are mostly medical doctors, nurses and some Community Health Officers. Often, LGA officers in the PHC context are field workers and they are directly involved with implementing developmental health and health-related goals in the communities compared to heads of facilities, whose duties are more clinical and managerial.

Most of the respondents, more than 70%, in each category of the current position held, stated that it is *'unlikely to attain the SDGs by 2030'*. None of the respondents selected the '*very likely to attain SDGs by 2030'* option. The LGA program officers were slightly more optimistic than heads of facilities in selecting '*likely to attain the SDGs'* choice. The situation analysis of SDGs progress would expectedly be clearer to the LGA program officers since they are more involved in a wider

range of health and the health-related activities in the communities than heads of facilities. The former women's affairs, as inter-sectoral partners in co ducting different community programs. We selected questions on three domains related to the COVID-19 pandemic, the PHC system and SDG 3. Altogether, most of the respondents stated that the COVID-19 pandemic is '*unlikely'* to distract the implementation of programs for SDGs, meaning that programs already planned for attaining SDG3 within the PHC system would continue into their execution phases. The majority of the respondents however also stated that the COVID-19 pandemic is '*unlikely'* to improve political will and partnership with external donors. Political will remains a major concern in low-lower-middle income countries, and the World Health Organization (WHO) encourages adequate funding based on the Gross Domestic Product (GDP) of individual nations. Thus far, the recommended proportion of the GDP in many sub-Saharan African nations has remained below WHO's recommendation for sustaining the health of the people.[24]

Without a commitment from the government in the health sector, achieving the full PHC components and SDGs will remain a challenge, especially with a pandemic such as COVID-19. The UN 2020 SDG report [17] already highlights that the progress and success recorded so far in maternal mortality rates, infant mortality rates, and communicable and non-communicable diseases especially in LLMICs could decline due to the COVID-19 pandemic. Before the COVID-19 pandemic, there were also reports on the negative state of health-related indices. Nigeria for instance is listed as one of the worst affected countries in terms of food availability and sustainability speaking directly to SDG2 and indirectly to SDG3 because of the relationship between health and nutrition.[17] The respondents stated that it is *unlikely* that it is only the also often collaborate with their colleagues from other units such as education, agriculture and COVID-19 pandemic that would affect the country from attaining SDGs by 2030.Some researchers have decried the uncertainty surrounding the achievement of the sustainable development goals despite the wealth of health knowledge about disease aetiology currently available. [17, 25] This supports the lack of political will emphasised by participants in this study and could derail the achievement of the SDGs in Nigeria. Another concern raised is the lack of partnership which the COVID-19 pandemic has not been able to bridge. Generally, efforts have been observed in the distribution of the COVID-19 vaccines however inequity persists across and within nations of the world.

Limitations

This study employed a cross-sectional design. Follow-up studies on this topical issue would give more information on attaining SDG3 in the context of COVID-19 pandemic.

CONCLUSION

For over four decades, PHC has remained a reliable platform for implementing national, regional and international goals in the health and health-related sectors. The knowledge and perceptions of attaining developmental goals among the frontline health workers, who are the foot soldiers, are critical to achieving, important SDGs health targets. Training and retraining of health workers on SDGs in the PHC centres of Rivers State are highly recommended. There may be other factors other than COVID-19 affecting the achievement of SDG3 by 2030 but the pandemic may be distracting in identifying these factors. More operational research is required in identifying and addressing the important but hidden factors.

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